

CLAIMS

What is claimed is:

1. A fusing device for an electrophotographic image forming apparatus, the device comprising:

a fusing roller which includes a tubular heat pipe, both ends of which are sealed, and in which a predetermined amount of a working fluid is contained, a cylindrical roller which surrounds the heat pipe, and a heater which is installed between the cylindrical roller and the heat pipe; and

a pressing roller which presses a sheet of paper passing between the pressing roller and the fusing roller;

wherein a rubber layer having a predetermined thickness is formed on a surface of the cylindrical roller so as to form a fusing nip with the paper.

2. The device of claim 1, wherein the rubber layer is formed of silicon.

3. The device of claim 1, wherein the thickness of the rubber layer is 1-3 mm inclusive.

4. The device of claim 1, wherein a step is formed at both ends of the cylindrical roller.

5. The device of claim 4, wherein the cylindrical roller comprises a cylindrical part and two step parts connected to both ends of the cylindrical part, and one step part and the cylindrical part are formed as a single body by swaging while the other step part and the cylindrical part are screwed to each other.

6. The device of claim 4, wherein the cylindrical roller comprises a cylindrical part and two step parts connected to both ends of the cylindrical part, and the cylindrical part and the step parts are screwed to each other.

7. The device of claim 1, wherein an outer diameter of the fusing roller is 35-50 mm inclusive.

8. The device of claim 1, wherein the pressing roller comprises:
a heater.
9. The device of claim 8, wherein the pressing roller comprises:
a tubular heat pipe, both ends of which are sealed and in which a predetermined amount
of a working fluid is contained; and
a cylindrical roller which surrounds the heat pipe.
10. The device of claim 8, wherein the pressing roller comprises a cylindrical roller
which surrounds the heater, and the heater is a halogen lamp.
11. A fusing device for an electrophotographic image forming apparatus, the device
comprising:
a fusing roller which includes a tubular heat pipe, both ends of which are sealed, and in
which a predetermined amount of a working fluid is contained, a cylindrical roller which
surrounds the heat pipe, and a heater which is installed between the cylindrical roller and the
heat pipe and generates heat; and
a pressing roller which presses a sheet of paper passing between the pressing roller and
the fusing roller;
wherein a step is formed at both ends of the cylindrical roller.
12. The device of claim 11, wherein the fusing roller comprises:
a rubber layer having a predetermined thickness and formed on the surface of the
cylindrical roller so as to form a fusing nip with the paper.
13. The device of claim 11, wherein the cylindrical roller comprises a cylindrical part
and two step parts connected to both ends of the cylindrical part, and one step part and the
cylindrical part are formed as a single body by swaging while the other step part and the
cylindrical part are screwed to each other.
14. The device of claim 11, wherein the cylindrical roller comprises a cylindrical part
and two step parts connected to both ends of the cylindrical part, and the cylindrical part and the
step parts are screwed to each other.

15. The device of claim 11, wherein an outer diameter of the fusing roller is 35-50 mm inclusive.

16. The device of claim 11, wherein the pressing roller comprises:
a heater.

17. The device of claim 16, wherein the pressing roller comprises;
a tubular heat pipe, both ends of which are sealed, and in which a predetermined amount of a working fluid is contained; and
a cylindrical roller which surrounds the heat pipe.

18. The device of claim 16, wherein the pressing roller comprises a cylindrical roller which surrounds the heater, and the heater is a halogen lamp.